

# Klamath River TMDL Update



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# Presentation Topics

- **Background on TMDLs**
- **Klamath River impairments**
- **Analytic approach**
- **Implementation**

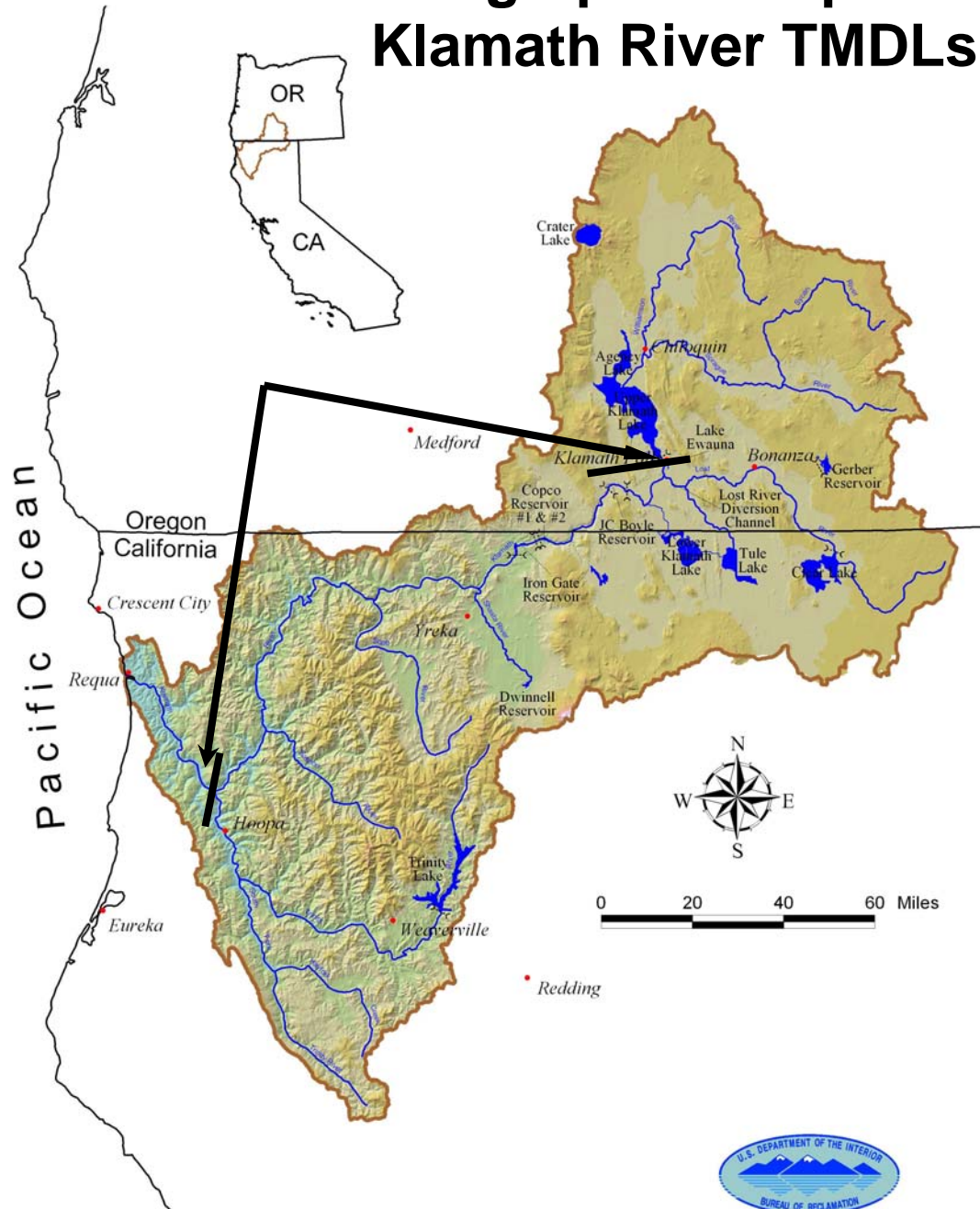


# CWA 303(d) Listings Klamath Basin, CA

Waterbody	Nutrients	Low DO	Temperature	Sediment / Siltation	
Klamath River (OR to Ocean)	X	X	X		
Lower Lost River	X		X		
Shasta River		X	X		
Scott River			X	X	
Salmon River			X		
Trinity River				X	

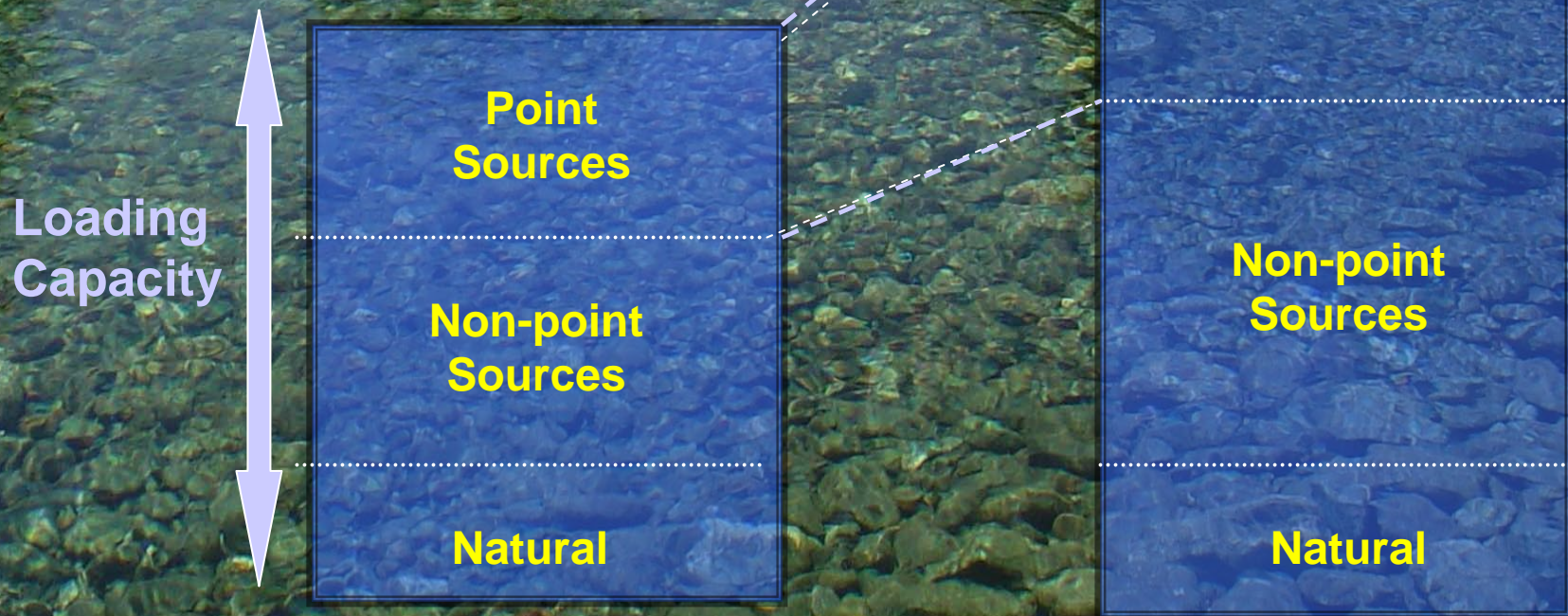


# Geographic Scope of Klamath River TMDLs





# TMDL Equation





# Major Source Categories

- Hydroelectric facilities
- Forestry
- Irrigated agriculture
- Grazing
- Populated areas
  - Wastewater treatment facilities
  - Stormwater runoff
- Industrial discharges
- Roads



# Key Sources of Impairment

- **Loss/degradation of riparian vegetation and riparian function**
- **Sediment from many sources, including roads and forestry-related activities**
- **Nutrient enrichment**
- **Impoundments**
- **Loss of wetlands**
- **Water diversions**



# Analytic Approach

- Literature review
- Empirical data analysis
- Mathematical models - calibration



# Next Steps

- **Model scenario runs**
- **Public review of Chapters 1 & 2**



# Schedule

- Modeling scenarios and public review of chapters 1 and 2 – Early 2007
- Consent decree = December 2007
- Negotiating with EPA and plaintiffs for extension



# Implementation

- Goal of Action Plan is to achieve the TMDLs and meet water quality standards
- Legal requirements and Nonpoint source policy
- Approach to development of Action Plan
- Adaptive Management
- Action Plan Categories



# Basin Planning Requirements for TMDL Implementation

**Implementation Actions**

**Enforceable Time Schedule**

**Monitoring**

**(CWC §13242)**

## WATER QUALITY CONTROL PLAN for the NORTH COAST REGION



State of California  
Regional Water Quality Control Board  
North Coast Region (Region 1)



# State Nonpoint Source Policy

**All nonpoint sources must be regulated through either:**

- 1. Waste Discharge Requirements (permits)**
- 2. Waivers of WDRs**
- 3. Basin Plan Prohibitions**

**(23 CCR §2915)**



# Developing the Action Plan

- Follow Shasta River framework
- Tie actions to load reductions
- Prioritize actions based on severity of sources and potential for improvements
- Determine regulatory tools to address sources
- Provide a monitoring plan and track compliance with time schedules



# Adaptive Management

- **Reference local watershed assessments and implementation plans**
- **No prescriptions**
- **Periodic evaluation of progress toward milestones**
- **Assessment of effectiveness of management measures and prioritization strategy**
- **TMDL can be revised, timelines and milestones can be adapted**



# Action Plan Categories

- **Interstate Water Quality - Work with ODEQ, ODA, EPA Region 9 and 10 to establish bi-state MOU**
- **NPDES permits – incorporate load allocations**
- **Non-federal Timber Harvest – THP process, watershed WDRs/waivers, Stream and Wetlands Policy**
- **Federal Timber Harvest – MOU with USFS and BLM, Stream and Wetlands Policy**
- **Grazing and Irrigated Agriculture**
- **Water Management**



# Grazing and Irrigated Agriculture

## Tailwater Quality Riparian Management Irrigation Efficiency

- Develop MOU with USFS, BLM and USFWS
- Waiver for non-point source dischargers who participate in local resource conservation plan
- Enforceable timelines with compliance and instream monitoring
- Stream and Wetlands Policy



# Water Management

## Pacificorp Dam Releases

401 Certification considers:

- Blue-green algae/nutrients
- Thermal refugia
- Mainstem temperatures
- Fish Disease

## Increase Dedicated Cold Water Flows

- Water conservation and irrigation efficiency